

CLAIMS

What is claimed and desired to be secured by Letters Patent is as follows:

1. A computer system for converting a scrollable source document into a page display document, the source document having information in the form of text, graphics, tables, or combinations thereof, which source document is too large to be fully displayable without scrolling on a display window of a screen associated with the system, the system comprising:
 - 5 (a) first formatting means for automatically formatting a screen page that is fully displayable in the display window and comprises at least one column, each having a column width corresponding to a number of characters per line within a predetermined range of characters per line;
 - 10 (b) second formatting means for automatically reformatting the source document to conform with said column width to form a display document comprising a plurality of sequential display pages; and
 - (c) displaying means for automatically filling said at least one column of the display window with a selected one of said plurality of display pages, each said display page being separately and fully displayable in the display window; and
 - 15 (d) paging means for selectively paging, without scrolling, through said plurality of display pages.
2. The system according to claim 1, wherein said first formatting means includes column determining means for automatically determining the quantity of said at least one column comprising each said display page.
3. The system according to claim 2, further comprising said column determining means configured to automatically determine the actual width of said at least one column.
4. The system according to claim 1, wherein said second formatting means and said display means are configured to automatically utilize a user selected font for said plurality of display pages.
5. The system according to claim 1, wherein said second formatting means and said display means are configured to automatically utilize a user selected size of font for said plurality of display pages.
6. The system according to claim 1, wherein said second formatting means is responsive to in-line formatting commands included in the source document.

7. The system according to claim 5, including:
- (a) font changing means for selectively changing the size of the font utilized for said plurality of display pages; and
 - (b) said first formatting means, responsive to said font changing means, being operable to reformat said screen page such that said at least one column maintains said column width within said predetermined range of characters per line.
8. The system according to claim 1, wherein said second formatting means further comprises resizing means for automatically resizing a graphic image or table included in the source document to fit within said at least one column.
9. The system according to claim 8, wherein said resizing means includes icon forming means for automatically displaying the graphic image or table as an icon in said at least one column in a respective one of said plurality of display pages.
10. The system according to claim 9, wherein said resizing means further includes expanding means for selectively displaying the graphic image or table in the size anticipated by the source document by mouse clicking respective said icon.
11. The system according to claim 10, wherein said resizing means is configured to automatically maintain the height-to-width ratio of the graphic image or table during said resizing and expanding.
12. A computer system for automatically converting a scrollable electronic document, including text, graphics, tables and combinations thereof, from a scrollable format to a non-scrollable format, the system comprising:
- (a) a page-forming mechanism configured to operatively and automatically arrange the scrollable electronic information document into a plurality of non-scrollable pages, each having at least one column wherein each said column has a width corresponding to a number of characters per line within a predetermined range of characters per line;
 - (b) a screen having a display window configured to simultaneously display a selected one of said plurality of non-scrollable pages in its entirety; and
 - (c) a page-turning mechanism configured to selectively, sequentially and individually display said plurality of non-scrollable pages in said display window.
13. The system according to claim 12, wherein said page-forming mechanism includes a content formatter mechanism configured to be operatively responsive to formatting commands embedded in the

electronic document.

14. The system according to claim 13, wherein said page-forming mechanism includes a font-sizing mechanism configured to operatively permit a user to selectively alter the size of the characters comprising said non-scrollable pages.
15. The system according to claim 12, further including an image sizing mechanism configured to automatically alter the widths of graphic images and tables in the electronic document to conform to the width of said at least one column.
16. The system according to claim 12, including an image sizing mechanism configured to automatically and proportionately alter the widths of graphic images and tables in the electronic information document to conform to the width of said at least one column.
17. The system according to claim 15, the means for reducing the size of a graphic image or table being operable to selectively display the graphic image or table in the size originally anticipated by the electronic information document.
18. A method for converting a scrollable source document into a page display document wherein the source document has information in the form of text, graphics, tables, or combinations thereof and wherein the source document is too large to be fully displayable without scrolling on a display window of a screen, the method comprising the steps of:
 - 5 (a) automatically formatting a screen page that is fully displayable in the display window wherein said screen page comprises at least one column, each having a column width corresponding to a number of characters per line within a predetermined range of characters per line;
 - (b) automatically reformatting the source document to conform with said column width to form a display document comprising a plurality of sequential display pages; and
 - 10 (c) automatically filling said at least one column of the display window with a selected one of said plurality of display pages, each said display page being separately and fully displayable in the display window; and
 - (d) selectively paging, without scrolling, through said plurality of display pages.
19. The method according to claim 18, wherein said step of automatically formatting a screen page includes the step of automatically determining the quantity of said at least one column comprising each said display page.

20. The method according to claim 19, wherein said step of automatically formatting a screen page further includes automatically determining the actual width of each of said at least one column.
21. The method according to claim 18, wherein each of said step of automatically reformatting the source document and said step of automatically filling said at least one column includes automatically utilizing a user selected font for said plurality of display pages.
22. The method according to claim 18, wherein each of said step of automatically reformatting the source document and said step of automatically filling said at least one column includes automatically utilizing a user selected size of font for said plurality of display pages.
23. The method according to claim 18, wherein said step for automatically reformatting the source document includes automatically responding to in-line formatting commands included in the source document.
24. The method according to claim 22, further including the steps of:
 - (a) selectively changing the size of the font utilized for said plurality of display pages; and
 - (b) automatically reformatting said screen page such that said at least one column maintains said column width within said predetermined range of characters per line.
25. The method according to claim 18, wherein said step of automatically reformatting the source document includes automatically resizing a graphic image or table included in the source document to fit within said at least one column.
26. The method according to claim 25, wherein said step of automatically resizing a graphic image or table includes automatically displaying the graphic image or table as an icon in said at least one column in a respective one of said plurality of display pages.
27. The method according to claim 26, wherein said step of automatically resizing a graphic image or table further includes selectively expanding and displaying the graphic image or table in the size anticipated by the source document by mouse clicking respective said icon.
28. The method according to claim 27, wherein said step of automatically resizing a graphic image or table includes automatically maintaining the height-to-width ratio of the graphic image or table during said resizing and expanding.

29. A method for automatically converting a scrollable electronic document, including text, graphics, tables and combinations thereof, from a scrollable format to a non-scrollable format, the method comprising the steps of:
- 5 (a) automatically arranging the scrollable electronic information document into a plurality of non-scrollable pages, each having at least one column wherein each said column has a width corresponding to a number of characters per line within a predetermined range of characters per line based on a user selected font size;
- (b) simultaneously displaying a selected one of said plurality of non-scrollable pages in its entirety; and
- 10 (c) selectively, sequentially and individually displaying said plurality of non-scrollable pages in said display window.
30. The method according to claim 29, wherein said step of automatically arranging the scrollable electronic document includes automatically responding to formatting commands embedded in the electronic document.
31. The method according to claim 30, wherein said step of automatically arranging the scrollable electronic document includes selectively altering the size of the characters comprising said non-scrollable pages.
32. The method according to claim 29, wherein the step of automatically arranging the scrolling electronic document includes automatically altering the widths of graphic images and tables in the electronic document to conform to the width of said at least one column.
33. The method according to claim 29, wherein the steps of automatically arranging the scrolling electronic document includes automatically and proportionately altering the widths of graphic images and tables in the electronic document to conform to the width of said at least one column.
34. The method according to claim 32, wherein the step of altering the widths of graphic images and tables includes selectively displaying the graphic image or table in the size originally anticipated by the electronic document.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/00062

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 G06F17/21 G06F17/30

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

2/2

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	"PRINTING SEQUENTIALLY STORED TEXT AS MULTI-COLUMN TEXT AND FORMATTING MULTI-COLUMN TEXT" IBM TECHNICAL DISCLOSURE BULLETIN, vol. 33, no. 9, 1 February 1991, pages 225-229, XP000109458 see page 225, line 23 - page 229, line 9 ---	1, 12, 18, 29
Y	"LOCAL 'PAGING' TO ENABLE BETTER IMAGE ZOOM CAPABILITY ON A NON- PROGRAMMABLE TERMINAL" IBM TECHNICAL DISCLOSURE BULLETIN, vol. 37, no. 12, 1 December 1994, page 15/16 XP000487685 see page 16, line 3 - line 21 --- -/-	1, 12, 18, 29

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"A" document member of the same patent family

Date of the actual completion of the international search

28 May 1999

Date of mailing of the international search report

07/06/1999

Name and mailing address of the ISA

European Patent Office, P.O. Box 30 Patentamt
NL-2280 HV Rijswijk
Tel: (+31 70) 340 2040, Tx: 91651 epp.nl
Fax: (+31 70) 340 3016

Authorized officer

Suendermann, R

INTERNATIONAL SEARCH REPORT

Int'l. Application No

PCT/US 99/00062

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>US 5 524 201 A (SHWARTS SCOTT L ET AL) 4 June 1996 see abstract; claims 1-7 see column 9, line 29 - column 10, line 16; figure 6</p> <p>-----</p>	<p>1, 12, 18, 29</p>

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 99/00062

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5524201 A	04-06-1996	NONE	

This Page is inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☒ BLURED OR ILLEGIBLE TEXT OR DRAWING
- ☒ SKEWED/SLANTED IMAGES
- ☐ COLORED OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☐ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☒ REPERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images
problems checked, please do not report the
problems to the IFW Image Problem Mailbox**